

x Intercepts

The x intercepts of a polynomial are the points on the graph where it intersects the x axis. The idea for finding these points is that if the polynomial intersects the x axis, the point will be of the form $(x, 0)$ for a certain x . So, to find these points, we set y equal to zero and solve the remaining equation in terms of x .

Example:

Find the x intercepts of $y = xy + x^2 - 3$

Setting $y = 0$ gives:

$$y = xy + x^2 - 3$$

$$0 = 0 + x^2 - 3$$

$$x^2 = 3$$

$$x = \pm\sqrt{3}$$

Now, give these questions a try. You may need to factor an equation to get its x intercept.

1. $x + y = 4$

2. $x^2 + y^2 = 9$

3. $-4x - 2y = 3xy + 2$

4. $3x^2 = 4y^6 + 27$

5. $xy + 2y - x + 3 = 2$

6. $x^2 - 5 = 3y + 64$

7. $-x^2y + y^2x - 8y + 3x = 0$

8. $3y^2 + 3x^2 - xy - 4 = 0$

9. $yx^6 + x^2 - 6x + 3xy + 9 = 4$

10. $xy = 4$

(Does this have an x intercept?)

<http://math.about.com>